

REMARKS

I. PRELIMINARY REMARKS

Claims 6, 9 and 17 have been amended. No claims have been canceled. Claim 25 has been added. Claims 1-25 remain in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

II. BRIEF DESCRIPTION OF AN EXEMPLARY EMBODIMENT

The present inventions, as defined by the claims, are directed generally to sound processors and to cochlear implant systems that include sound processors. Referring to Figure 3, which is reproduced below, a cochlear implant system 10' in accordance with one exemplary embodiment includes an implantable stimulator 12 and an **external** sound processor 50. The external sound processor 50 includes a coil 22 for transferring stimulation signals and power signals to the implantable stimulator 12. A power source 60 is permanently integrated into the external sound processor 50. To that end, in those instances where the permanently integrated power source 60 is rechargeable, the sound processor 50 may be provided with a coil 56 that receives power from an external charging source and recharges the power source. Alternatively, as illustrated in Figure 6, the permanently integrated power source 60 may receive recharging power by way of electrical contacts 61 and 62 that are carried on the surface or, or embedded within, the sound processor case.

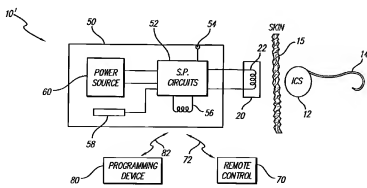


Figure 3 of the Present Application

There are a number of advantages associated with such sound processors and cochlear implant systems. For example, because the power source is permanently integrated into the present sound processor, the user does not have to carry and/or replace small sound processor batteries, as is the case with conventional sound processors. The present sound processors will also typically be smaller and have fewer components (i.e. no door, latch and/or electrical connectors for a removable battery) than sound processors with removable batteries. [See, e.g., paragraphs 0012-0016 of the present application.]

III. PRIOR ART REJECTIONS

A. The Rejections

Claims 1-4, 6, 7 and 21 have been rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,272,382 to Faltys ("the Faltys patent"). Claim 21 has also been rejected under 35 U.S.C. § 103 as being unpatentable over the Faltys patent. Claims 5 and 8 have been rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Faltys patent and U.S. Pat. Pub. No. 2002/0076071 naming Single ("the Single publication"). Claims 9-13, 15, 17-20 and 22-24 have been rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Faltys patent and U.S. Patent No. 4,918,736 to Bordewijk ("the Bordewijk patent"). Claim 14 has been rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Faltys patent, the Bordewijk patent and the Single publication. Claim 16 has been rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of the Faltys patent, the Bordewijk patent and U.S. Patent No. 3,942,535 to Schulman ("the Schulman patent").

The rejections under 35 U.S.C. §§ 102 and 103 are respectfully traversed with respect to the claims as amended above. Reconsideration thereof is respectfully requested.

B. Discussion Concerning Claims 1-8 and 21

Independent claim 1 is directed to a sound processor for use with an implantable cochlear stimulator. The claimed sound processor comprises a combination of elements including, *inter alia*, “a headpiece ... adapted to transfer the stimulation signal and the power signal from the sound processing circuit to the implantable cochlear stimulator” and “a power source **permanently integrated into** the sound processor and adapted to provide operating power for the sound processing circuit and implantable cochlear stimulator.” The respective combinations defined by claims 2-8 and 21 include, *inter alia*, the elements recited in claim 1.

The Faltys patent fails to teach or suggest the claimed combinations. For example, the Office Action appears to have taken the position that the external speech processor illustrated in Figures 1A and 1C and described in column 7, lines 59-67 and column 8, lines 8-10 corresponds to claimed “sound processor.” [Office Action at pages 2 and 3.] In order to clarify the issues in this application, applicant notes here that the systems illustrated in Figures 1A and 1C are not related to one another. The portions of columns 7 and 8 cited in the Office Action are part of a description of cochlear implant systems with **external** speech processors that existed prior to the inventions described in the remainder of the Faltys patent. The prior systems are discussed, with reference to Figures 1A and 1B, column 7, line 51 to column 9, line 18 of the Faltys patent. Figure 1C, on the other hand, is an illustration of a **fully implantable** system in accordance with at least one of the inventions in the Faltys patent.

Turning to the various devices disclosed in the Faltys patent, the Faltys patent indicates that the external components illustrated in Figure 1A include a speech processor and “a power source (e.g., a replaceable battery)” within a wearable unit 102. [Column 7, lines 60-64.] The Faltys patent also indicates that “the batteries employed within the wearable unit 102 (FIG. 1A) or the BTE unit 120 (FIG. 1B) may be readily replaced when needed.” [Column 9, lines 19-21.] As such, the power source in the speech processor illustrated in Figure 1A simply is not “**permanently** integrated into” the wearable unit 102.

Figure 1C is, as noted above, an illustration of a fully implantable system. The rechargeable battery is not, therefore, part of a “sound processor” with a “headpiece.”

The Faltys patent also discloses an external module 50 that may be used in combination with a fully implantable system. [Figure 2D.] The external module 50 includes an external unit 54 that “is powered from an external power source 56.” The Faltys patent indicates that the external power source 56 will typically comprise a replaceable battery. [Column 13, lines 63–66.] The Faltys patent also indicates that a variety of other power sources may be employed. [Column 13, line 66 to column 14, lines 4.] The Faltys patent does not, however, indicate that the other power sources are “**permanently** integrated into” the external module 50. The other power sources are instead recited in a list that includes, *inter alia*, “dc power supplies connected to the ac line voltage” and “hand operated generators.”

As the cited reference fails to teach or suggest each and every element of the combination recited in independent claim 1, applicant respectfully submits that claims 1-4, 6 and 7 are patentable thereover and that the rejection under 35 U.S.C. § 102 should be withdrawn.

With respect to claims 5 and 8, applicant respectfully submits that the Single publication, which has been cited for its purported lithium battery teachings, fails to remedy the aforementioned deficiencies in the Faltys patent. Claims 5 and 8 are, therefore, patentable for at least the same reasons as independent claim 1 and the rejection of claims 5 and 8 under 35 U.S.C. § 103 should also be withdrawn.

Turning to claim 21, the Office Action appears to assert that the **implantable** signal processor discussion in column 4, lines 5-23 somehow shows that an external device (i.e. the wearable unit 102 in Figure 1A, or the external module 50 in Figure 2D) would inherently have “a sound processor case that does not include a power source removal door” and/or that it would be obvious to provide such a sound processor case. [Office Action at page 9.] Given that the devices illustrated in Figures 1A and 2D are typically powered by replaceable batteries, and there is no indication whatsoever that any other power source could be “permanently integrated into” the associated device,

the assertions of inherency and obviousness with respect to the lack of a door are without merit.¹ Thus, for reasons in addition to those discussed above in the context of independent claim 1, the rejections of claim 21 under 35 U.S.C. §§ 102 and/or 103 should also be withdrawn.

C. Discussion Concerning Claims 9-16, 22 and 23

Independent claim 9 is directed to a cochlear implant system that comprises "an implantable portion," "an external portion" and "a remote control unit." The **external portion** includes "a headpiece" and "a sound processor [that] comprises sound processing circuits, a coil and a **battery permanently integrated into a closed case.**" The respective combinations defined by claims 10-16, 22 and 23 include, *inter alia*, the elements recited in claim 9.

The cited references fail to teach or suggest the claimed combinations. For example, and as discussed in detail above, the batteries employed in the Faltys wearable unit 102 (Figure 1A) and the BTE unit 120 (Figure 1B) "may be readily **replaced** when needed." [Column 9, lines 19-21, emphasis added.] The fully implantable system illustrated in Figure 1C does not include an external portion with a sound processor and a "headpiece." Turning to the external module 50 in the system illustrated Figure 2D, the Faltys patent indicates that the external power source 56 will typically be a **replaceable** battery. [Column 13, lines 63-66.] Although the Faltys patent also indicates that a rechargeable battery may be employed, the Faltys patent does not indicate that the rechargeable battery is "**permanently** integrated into" the external module 50. [Column 13, line 66 to column 14, lines 4.] The Bordewijk patent, which has

¹ With respect to purportedly inherent subject matter, the Federal Circuit stated that "[t]o serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with the recourse to extrinsic evidence" and that "such evidence must make it clear that the missing descriptive matter is **necessarily present** in the thing described in the reference." *Continental Can Co. USA v. Monsanto Co.*, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991) (emphasis added). "Inherency ... may not be established by probabilities or possibilities." *Id.*

been cited for its purported remote control teachings, fails to remedy the battery-related deficiencies in the Faltys patent.

Accordingly, even assuming for the sake of argument that there was some reason to combine their teachings in the manner proposed in the Office Action, the Faltys and Bordewijk patents fail to teach or suggest the combination of elements recited in independent claim 9. The rejection of claims 9-13, 15, 22 and 23 under 35 U.S.C. § 103 should, therefore, be withdrawn.

With respect to claim 14, applicant respectfully submits that the Single publication, which has been cited for its purported lithium battery teachings, fails to remedy the aforementioned deficiencies in the Faltys and Bordewijk patents. Claim 14 is, therefore, patentable for at least the same reasons as independent claim 9 and the rejection of claim 14 under 35 U.S.C. § 103 should also be withdrawn.

Turning to claim 16, applicant respectfully submits that the Schulman patent, which was cited for its purported external charging circuit teaching, fails to remedy the aforementioned deficiencies in the Faltys and Bordewijk patents. Claim 16 is, therefore, patentable for at least the same reasons as independent claim 9 and the rejection of claim 16 under 35 U.S.C. § 103 should also be withdrawn.

D. Discussion Concerning Claims 17-20 and 24

Independent claim 17 is directed to a cochlear implant system that comprises "an implantable portion," "an external portion," "a remote control unit" and "a base station." The **external portion** includes "a headpiece" and "a sound processor [with] sound processing circuits, an antenna coil, a **rechargeable battery integrally housed within a closed case**, and **electrical contacts embedded within or carried on an exterior surface of the closed case** that are in electrical contact with the rechargeable battery." The respective combinations defined by claims 18-20 and 24 include, *inter alia*, the elements recited in claim 17.

The cited references fail to teach or suggest the claimed combinations. For example, and as discussed in detail above, the batteries employed in the Faltys wearable unit 102 (Figure 1A) and the BTE unit 120 (Figure 1B) "may be readily

replaced when needed.” [Column 9, lines 19-21, emphasis added.] As such, the batteries are not rechargeable, are not integrally housed with a closed case, and are not connected to electrical contacts on the exterior surface of the wearable (or BTE) unit. The fully implantable system illustrated in Figure 1C does not include an external portion with a sound processor and a “headpiece.” Turning to the external module 50 in the system illustrated Figure 2D, the Faltys patent indicates that the external power source 56 will typically be a **replaceable** battery, not a rechargeable battery that is integrally housed within a closed case. [Column 13, lines 63-66.] Although the Faltys patent also indicates that a rechargeable battery may be employed, the Faltys patent does not indicate that the rechargeable battery is **“integrally housed within”** a closed case. Nor does the Faltys patent indicate that the rechargeable battery is connected to electrical contacts on the exterior surface of the external module “case.” The Bordewijk patent, which has been cited for its purported remote control teachings, fails to remedy the battery-related deficiencies in the Faltys patent.

Accordingly, even assuming for the sake of argument that there was some reason to combine their teachings in the manner proposed in the Office Action, the Faltys and Bordewijk patents fail to teach or suggest the combination of elements recited in independent claim 17. The rejection of claims 17-20 and 24 under 35 U.S.C. § 103 should, therefore, be withdrawn.

IV. NEWLY PRESENTED CLAIM 25

Newly presented claim 25 calls is directed to an “external sound processor for use with an implantable cochlear stimulator.” The external sound processor comprises “a microphone,” “a sound processing circuit,” “a rechargeable power source permanently connected to the sound processing circuit,” **“means for** mounting the microphone, sound processing circuit and rechargeable power source behind a human ear” and **“means,** carried by the means for mounting, **for** transferring power from an external power source to the rechargeable power source.” Applicant respectfully submits that the references cited in the Office Action fail to teach or suggest the combination defined by claim 25 and that claim 25 is patentable thereover.

V. CLOSING REMARKS

In view of the foregoing, it is respectfully submitted that the claims in the application are in condition for allowance. Reexamination and reconsideration of the application, as amended, are respectfully requested. Allowance of the claims at an early date is courteously solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is respectfully requested to call applicant's undersigned representative at (310) 563-1458 to discuss the steps necessary for placing the application in condition for allowance.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-0638. Should such fees be associated with an extension of time, applicant respectfully requests that this paper be considered a petition therefor.

Respectfully submitted,

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Date

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